



State of Utah

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December 18, 1996

Roman Gordon
8500 Wilshire, Suite 631
Beverly Hills, California 90211

Re: Response to Request for Information on Humic Shale

Dear Mr. Gordon:

I apologize for the lengthy delay in responding to your December 5, 1996, telephone request for information on humic shale or humates. The delay was caused in part by the lack of printed information specifically describing this material (you are probably already aware of this). I could not find any information in the resources available to me here at the Department of Natural Resources which described this material.

Information resources which I checked included several geologic text books, Geologic Reports at the Utah Geological Survey bookstore and the Department of Natural Resources Library. I also checked with a geologist with our Abandoned Mine Reclamation Program to see if he could direct me to some other sources. As a suggestion, you may want to try contacting the United States Geologic Survey via fax at their "Fax Back" number (703) 648-4999 or you may try their Internet location at: <http://www.usgs.gov>

One piece of information I have attached is a photocopy of a portion of a geologic map which describes the geologic formation which typically contains humic shale here in Utah. If I can be of any further assistance please contact me at the address on the letterhead or call (801) 538-5267. My E-mail address is: nrdomain.nrogm.tgallego@email.state.ut.us

Good luck with your search!

Sincerely,

Anthony A. Gallegos
Senior Reclamation Specialist

jb
Attachment
Gordon.ltr



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coarse-grained partly conglomeratic fluvial sandstone, with rare thin beds of sandy carbonaceous shale. 700 feet thick
 Cassin Sandstone; massive cliff-forming sandstone. 150 feet thick

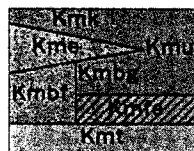
UNCONFORMITY



Blackhawk Formation and Star Point Sandstone

Blackhawk Formation; buff, gray, and white massive to thin-bedded fine- to medium-grained sandstone of marginal marine origin with minor gray and green carbonaceous shale. Contains thick, minable coal beds in the lower half. About 700 feet thick

Star Point Sandstone; dark-gray, buff, and white massive to thin-bedded fine- to medium-grained sandstone of beach and near-shore origin with interbedded dark-gray fissile shales of marine origin that are tongues of the upper part of the Mancos Shale. 350 feet thick



Mancos Shale

Dark-gray to black soft fissile fossiliferous marine shale with thin beds of bentonite and limestone, and yellow, brown, and white fine-grained sandstone. Total thickness 3,200 to 4,900 feet; thickens from east to west

Kmu, upper part undifferentiated; in northeastern part of area

Kmk, Masuk Member; dark-gray to black carbonaceous and sandy shale, interbedded with pale-yellow sandstone and shaly sandstone. 600 to 800 feet thick

Kme, Emery Sandstone Member; pale-yellow thin- to thick-bedded lenticular sandstone and minor interbedded carbonaceous shale and impure coal. 250 to 800 feet thick; thickens westward

Kmbf, Blue Gate Shale and Ferron Sandstone Members undivided

Kmbg, Blue Gate Shale Member; dark-gray to black carbonaceous marine shale with minor thin pale-yellow sandstone beds. 1,400 to 2,000 feet thick

Kmfe, Ferron Sandstone Member; pale-yellow thin- to thick-bedded lenticular sandstone and interbedded carbonaceous shale and coal. 50 to 750 feet thick; thickens from east to west

Kmt, Tununk Shale Member; dark-gray to black carbonaceous shale interbedded with thin beds of pale-yellow sandstone. 250 to 650 feet thick; thickens from east to west



Dakota Sandstone

Light-yellow and yellowish-brown friable to quartzitic coarse-grained cross-bedded fluvial sandstone, conglomeratic sandstone, and conglomerate, with minor interbedded carbonaceous shale and impure coal. Plant impressions are common. 0 to 125 feet thick; commonly occurs as discontinuous lenses

UNITED STATES GEOLOGIC SURVEY
 MISCELLANEOUS GEOLOGIC INVESTIGATIONS
 MAP I-591-A (1971)



Tununk Shale Member of Mancos
 Shale and Dakota Sandstone

THE HUMIC SHALE IS TYPICALLY
 A THIN LAYER (1-2 FT) AS PART
 OF A ZONE IN THE MANCOS SHALE
 FORMATION WHERE THE UPPER PART
 OF THE TUNUNK SHALE MEMBER
 MEETS THE FERRON SANDSTONE
 MEMBER.

CRETACEOUS

Middle Pennsylvanian